

Fig. 1

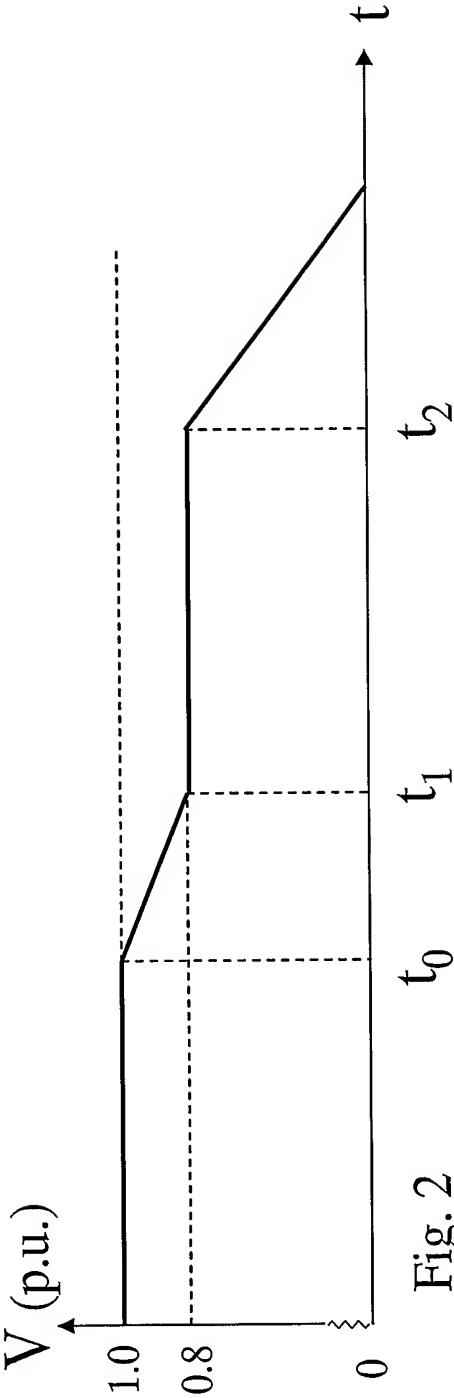


Fig. 2

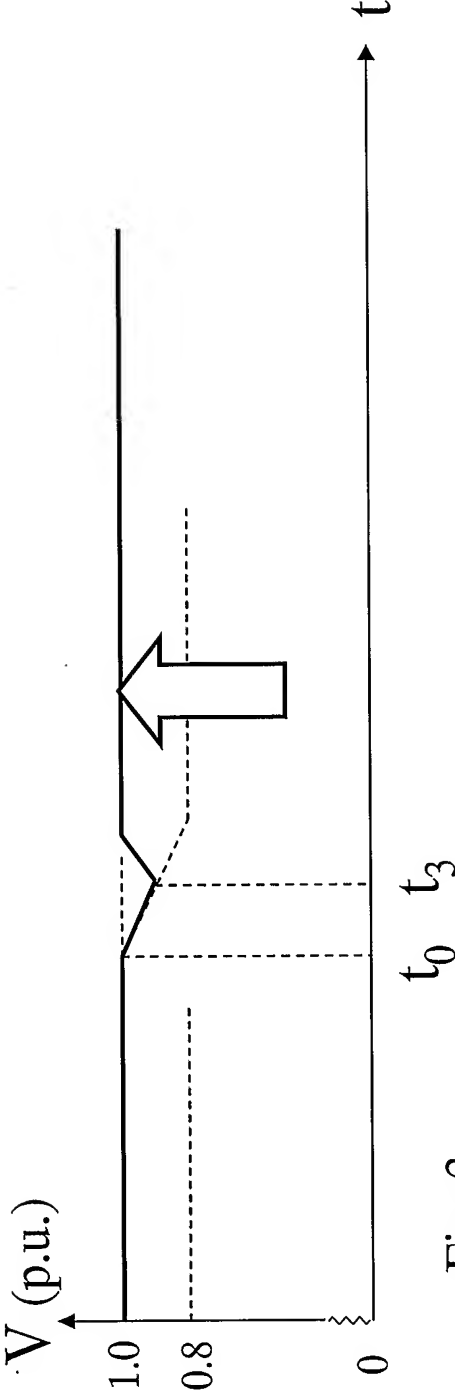


Fig. 3

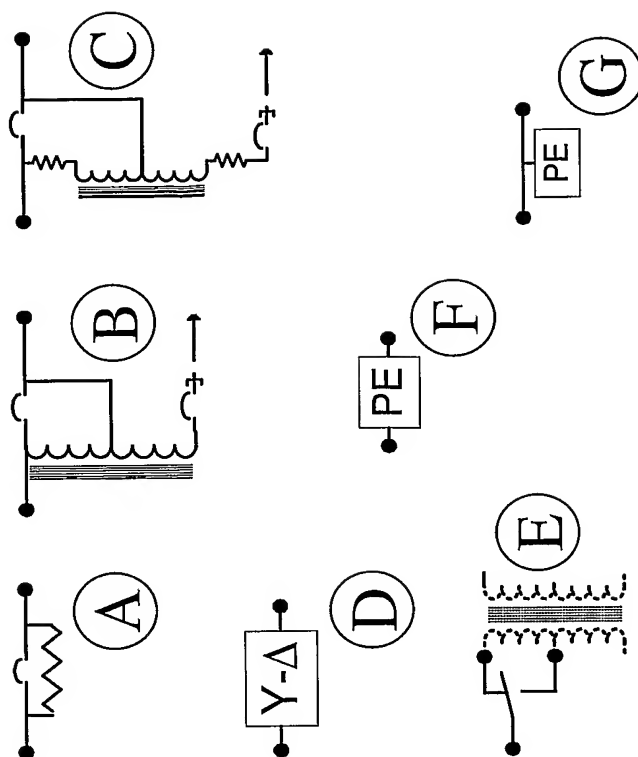


Fig. 5

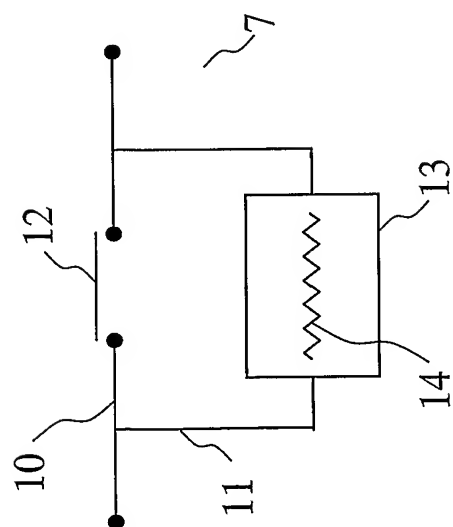


Fig. 4

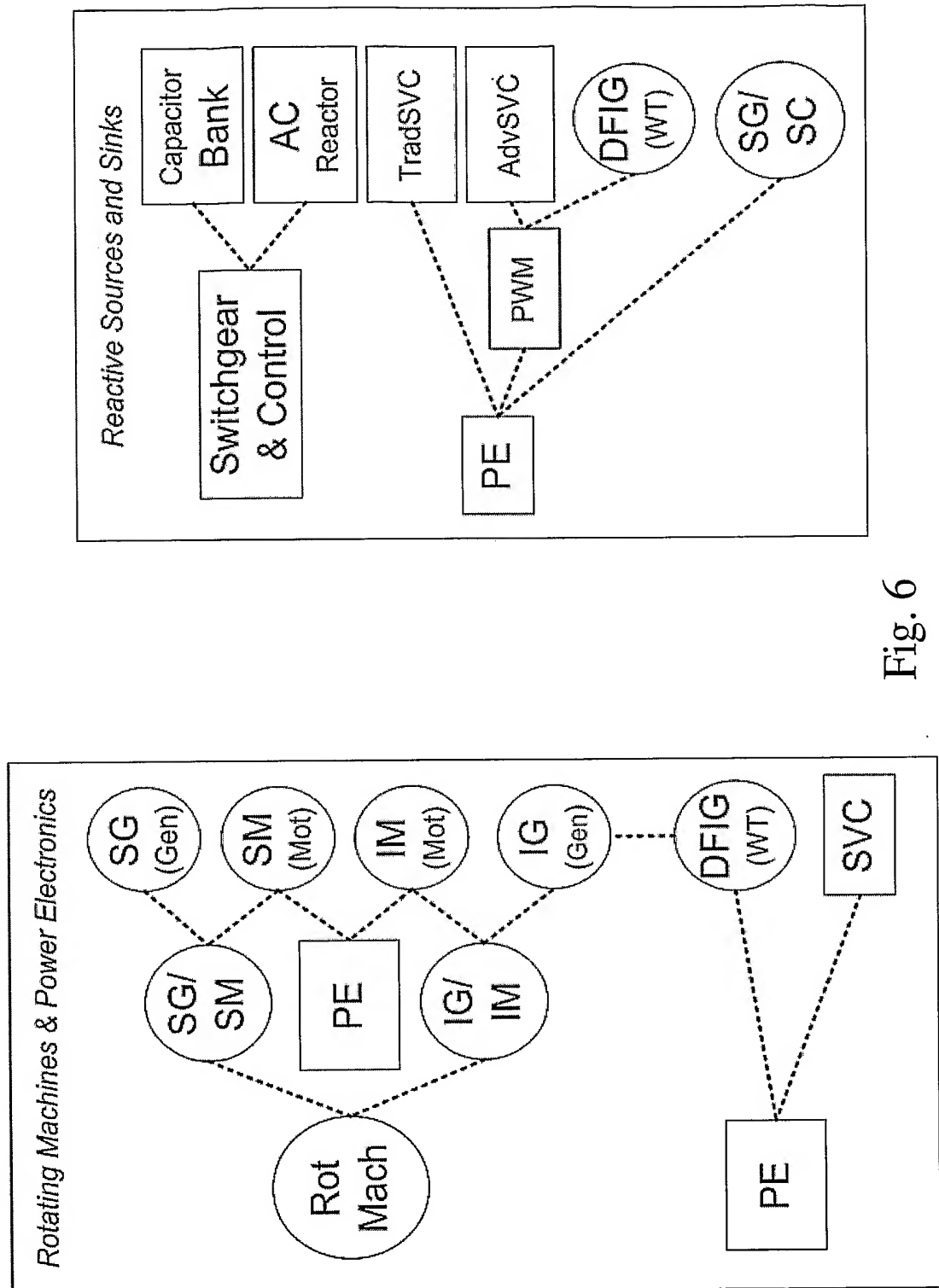
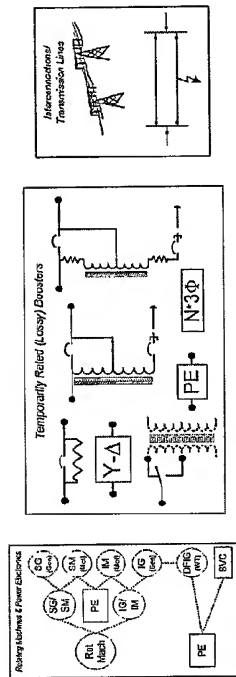


Fig. 6



		<i>Motors</i> <i>Elect. to Mech. Conversion</i>	<i>Motors/Generators</i>	<i>Generators</i> <i>Mech. to Elect. Conversion</i>
Non-synchronous Speed	1	IM/AM Induction Motors/ Asynchronous Motors	IM/AM Induction Machines/ Asynchronous Machines	IG/AG Induction Generators/ Asynchronous Generators
	2	SM Synchronous Motors	SM Synchronous Machines “One Excitation Converter”	SG Synchronous Generators
Synchronous Speed	3	SM Synchronous Motors	SM Synchronous Machines “One Excitation Converter”	SG Synchronous Generators
	4	D+Q (Two field windings)	“Two Excitation Converters”	D+Q (Two field windings)
Dynamic Phase Shift	5a	Partly-Rated ASDs	“Excitation & Slip Power Converter”	DFIG/DFSG (Double-Fed)
	5b	Partly-Rated ASDs	“Armature Power Converter”	DD, IS, ... (Fully-Rated)

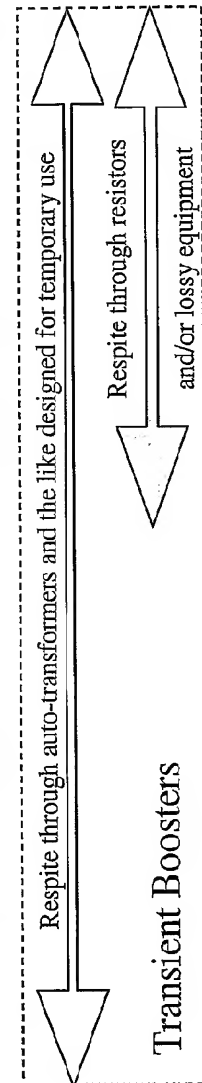
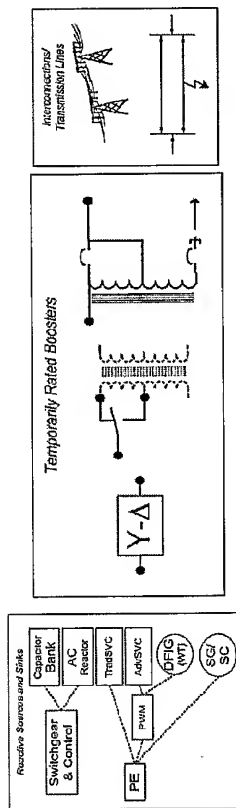


Fig. 7



		<i>Inductor Character</i> <i>Reactive Power Consumption</i>	<i>Inductor/Capacitor Character</i>	<i>Capacitor Character</i> <i>Reactive Power Production</i>	
Power Electronics	(Step-wise) Mechanically Switched	2	AC Reactors Mechanically Switched Shunt Reactors (MSR)	AC Capacitors Mechanically Switched Shunt Capacitors (MSC)	
	Static VAR Compensators (SVCs )	3a	AC Reactors Thyristor Controlled/Switched Shunt Reactors (TCR/TSR)	Reactors+Capacitors Thyristor Controlled Shunt Reactors & Capacitors	
		3b	Fully-Rated SVCs AdvSVC, Statcom, SVC Light™, ... , Active Filters, UPFC, & other FACTS		
	Rotating Machines as VAR Compensators	4	(IM) (Induction Machines)	DFIG/DFSG Double-Fed Induction/ Synchronous Generators	SG/SC Synchronous Generators (Synchronous Compensators)

Boost through auto-transformers and the like designed for temporary use

**Transient Boosters**

Fig. 8

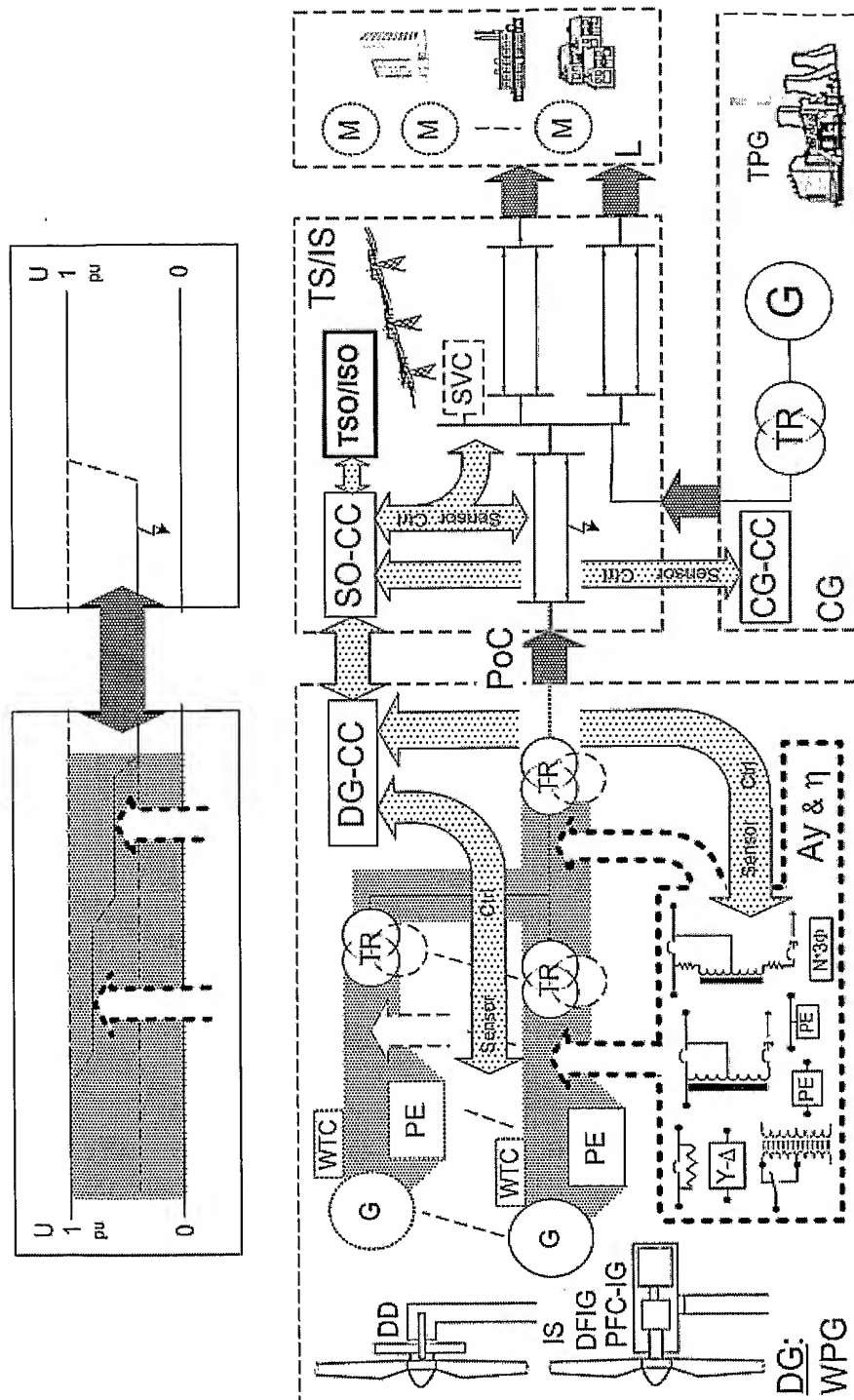


Fig. 9

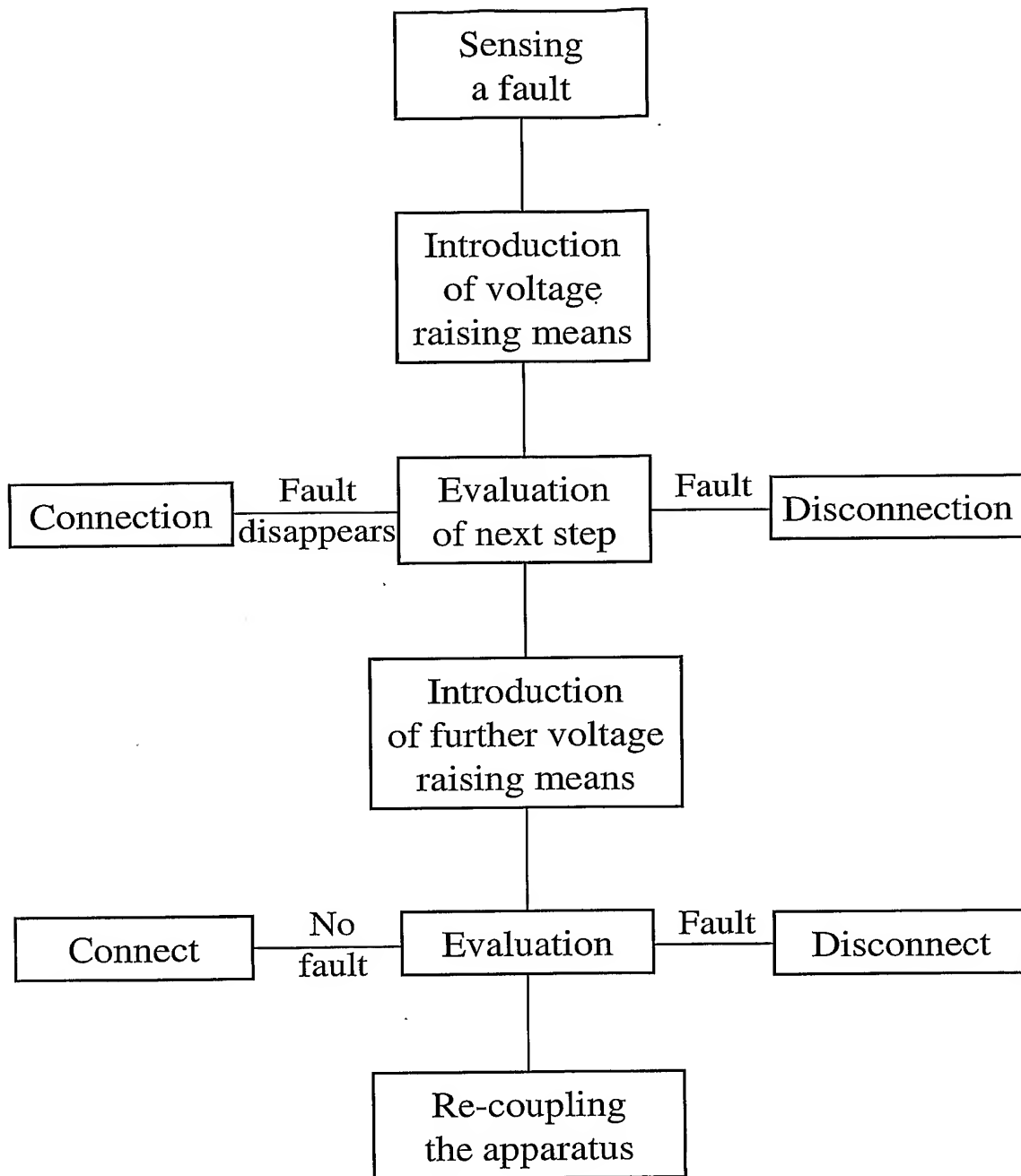


Fig. 10